

mount **84** maintains a determinant mount system such that T1 is always equal to T2. It should be understood that other arrangements which provide a determinant mount system where T1 equals T2 may alternatively or additionally be utilized. A failsafe pin **92** located along axis M is non-load bearing unless one or both of the attachment fasteners **90A**, **90B** were to fail.

[0043] The engine mounting configuration **80** minimizes IMC **48** distortion as the change in thrust location reduces the amount of backbone bending in the engine. By reacting thrust at the rear mount **84**, the engine centerline A is bent upwards in response to thrust loads (FIG. 4). The nacelle air load during takeoff rotation then operates to counteract the thrust load to bend the engine centerline A downward. This minimizes blade tip clearance requirements and thereby improves engine performance.

[0044] The engine mounting configuration **80** eliminates the heretofore required thrust links from the IMC, which frees up valuable space adjacent the IMC **48** and the HPC case **50** within the core nacelle C (FIGS. 5A-5D) since IMC distortion in typical engine mount configurations is minimized. The IMC **48** and HPC case **50** may then be used to piggy-back auxiliary engine components such as the engine accessory gearbox AG, hydraulic pumps HP, fuel pumps FP, oil tank OT, air-oil coolers AOC (FIG. 5B), and such like which thereby saves weight and space within the core nacelle C. Further details of an IMC accessory mounting arrangement are disclosed in published United States Patent Application Number 20060248900 to Suci, et al, which is herein incorporated by reference.

[0045] The accessory gearbox AG may also be mounted directly to the IMC **48** thereby eliminating the conventionally required lay shaft. That is, the accessory gearbox AG mount location on the IMC **48** facilitates direct drive and a smaller diameter core nacelle C (FIG. 5D).

[0046] Referring to FIG. 6, another engine mounting configuration **80'** also reacts the engine thrust at the rear mount **84'**, but the forward mount **82'** reacts only vertical loads V. The forward mount **82'** mounts to the intermediate case (IMC) **48** at a single point **86C**. The forward mount **82** is generally a plate-like member which is oriented transverse to the engine axis A such that a single fastener is oriented through the forward mount **82'** to engage the IMC **48** generally parallel to the engine axis A.

[0047] The aft mount **84'** includes a beam having a first arm **88A'** and a second arm **88B'** that mount to the MTF as described above. The first arm **88A'** supports a link load L1, a side load S1, and a thrust load T1. The second arm **88B'** supports a link load L2 and a thrust load T2. The aft mount **84'** is rotationally fixed about axis M such that the side load is removed from the forward mount **82'** and torque (link load) is carried by the unequal thrust loads ($T1 \neq T2$) at the aft mount **84'**. That is, the side load is reacted as unequal thrust loads ($T1 \neq T2$) at the aft mount **84'**.

[0048] Referring to FIG. 7A, another engine mounting configuration **80''** also handles the engine thrust at the rear mount **84''**, but the forward mount **82''** is mounted to the outer periphery of the IMC **48** at the fan case **20** outer diameter. A circumferential reinforcement plate **90** may be located about the outer periphery of the IMC **48** to receive front mount **82''**. The free body diagram of this configuration is generally equivalent to that illustrated in FIG. 3. The engine mounting configuration **80''** further frees-up valuable space within the core nacelle (FIGS. 7B-7C) and aft of the IMC **48**. That is, the

IMC **48** provides significant radial area within the core nacelle C inboard of the struts **40** for use to piggy-back auxiliary engine components as described above and in the previously incorporated reference. Furthermore, significant aerodynamic profiling may be applied to the pylon **12''**.

[0049] It should be understood that relative positional terms such as "forward," "aft," "upper," "lower," "above," "below," and the like are with reference to the normal operational attitude of the vehicle and should not be considered otherwise limiting.

[0050] The foregoing description is exemplary rather than defined by the limitations within. Many modifications and variations of the present invention are possible in light of the above teachings. The disclosed embodiments of this invention have been disclosed, however, one of ordinary skill in the art would recognize that certain modifications would come within the scope of this invention. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described. For that reason the following claims should be studied to determine the true scope and content of this invention.

What is claimed is:

1. A gas turbine engine mounting configuration comprising:
 - an aft mount which reacts at least a thrust load.
 2. The gas turbine engine mounting configuration as recited in claim 1, wherein said aft mount is attachable to a mid-turbine frame.
 3. The gas turbine engine mounting configuration as recited in claim 2, wherein said aft mount is attachable between a first bearing and a second bearing supported by said mid turbine frame.
 4. The gas turbine engine mounting configuration as recited in claim 1, wherein said aft mount is attachable to an engine thrust case.
 5. The gas turbine engine mounting configuration as recited in claim 1, further comprising a forward mount forward of said aft mount along an engine axis, said forward mount reacts at least a vertical load.
 6. The gas turbine engine mounting configuration as recited in claim 5, wherein said forward mount is attachable to an engine intermediate case.
 7. The gas turbine engine mounting configuration as recited in claim 5, wherein said forward mount reacts a side load.
 8. The gas turbine engine mounting configuration as recited in claim 5, wherein said forward mount is a generally planar member transverse to said engine axis.
 9. The gas turbine engine mounting configuration as recited in claim 1, wherein said aft mount includes a beam having a first arm and a second arm.
 10. The gas turbine engine mounting configuration as recited in claim 9, wherein said first arm includes a first attachment fastener and said second arm includes a second attachment fastener, said first attachment fastener and said second attachment fastener defined along a first and second attachment fastener axis which extends radially inward to intersect the engine axis.
 11. The gas turbine engine mounting configuration as recited in claim 9, wherein said beam is fixed about a vertical axis which intersects said engine axis.